

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived			
	Human ErbB4 (Gln26-Arg649) Accession # Q15303	IEGRMD	Human IgG ₁ (Pro100-Lys330)	6-His tag
	N-terminus		C-terminus	

N-terminal Sequence Amino acid sequencing was blocked, suggesting it is consistent with Gln26 as the first N-terminal amino acid

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 97 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 122-132 kDa, reducing conditions

Activity Measured by its ability to inhibit the biological activity of Neuregulin-1-β1 on MCF-7 human breast cancer cells. Karey, K.P. *et al.* (1988) Cancer Research **48**:4083.
The ED₅₀ for this effect is typically 1.5-6 μg/mL in the presence of 10 ng/mL of Recombinant Human NRG1-β1/HRG1-β1 Extracellular Domain (Catalog # **377-HB**).

Endotoxin Level <0.01 EU per 1 μg of the protein by the LAL method.

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 μm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 μg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ErbB4, also called Her4 (human epidermal growth factor receptor 4), is a type I membrane glycoprotein that is a member of the ErbB family of tyrosine kinase receptors. ErbB family members serve as receptors for the epidermal growth factor (EGF) family of growth factors. ErbB4 is expressed in normal skeletal muscle, heart, pituitary, brain and several breast carcinomas. ErbB4 ligands include the neuregulins, beta-cellulin and heparin-binding EGF-like growth factor (HB-EGF). Monomeric ErbB4 binds its ligands with low affinity. Typically, heterodimerization with ErbB2 forms the high affinity receptor complex. However, ErbB4 has also been shown to heterodimerize with both ErbB1 and ErbB3. It has been suggested that the identity of the ligand may influence the dimerization partner. Because ErbB3 contains a defective kinase domain, the kinase domain of ErbB2 is responsible for initiating the tyrosine phosphorylation signal through the heterodimeric receptor. It has been found that a discrete three amino acid signal in the ErbB3 cytoplasmic domain is critical for transactivation of ErbB2. Interestingly, this same three amino acid signal has been found in ErbB4 and ErbB1 (EGFR). Several ErbB4 isoforms exist. Two of these differ in the presence of juxtamembrane extracellular sequences which regulate the ability of TACE (TNF-α converting enzyme) to proteolytically cleave ErbB4 from the cell surface. These isoforms exhibit tissue-specific expression. Another isoform lacks the phosphoinositide 3-kinase activation sequence present in the ErbB4 cytoplasmic domain. Human ErbB4 consists of 1308 amino acids (aa) with a 25 aa signal sequence, a 626 aa extracellular domain, a 24 aa transmembrane region, and a 633 aa cytoplasmic domain. ErbB4 appears to play important roles in neuronal development, development of the heart and cancer.

References:

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